



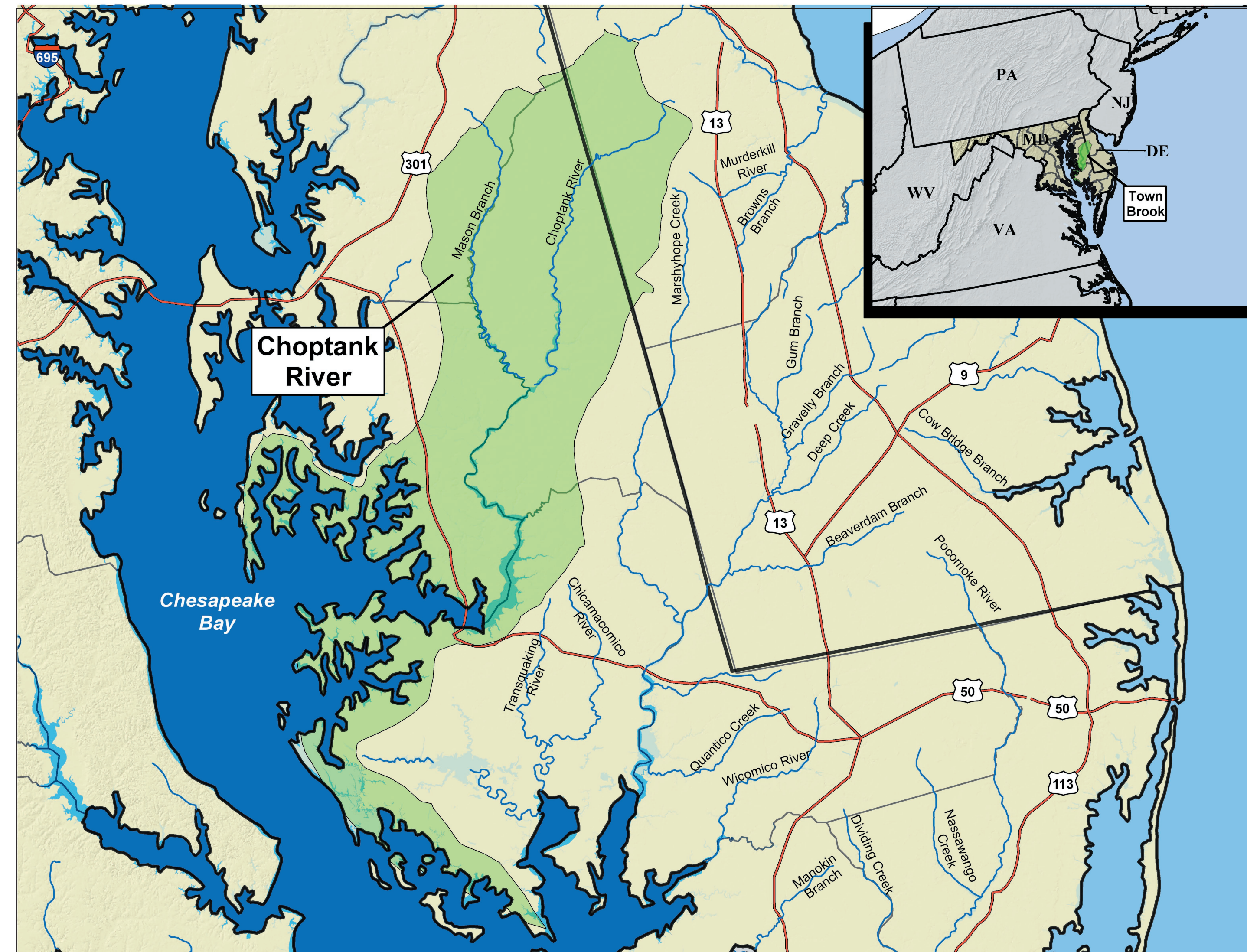
United States Department of Agriculture

Conservation Effects Assessment Project (CEAP)

Choptank River Watershed, Maryland: 2004-2005



An NRCS* Special Emphasis Watershed, one of 24 CEAP watershed projects.



Approach

Watershed models: Ann AGNIPs (Annualized Agriculture Non-Point Source), REMM (Riparian Ecosystem Management Model)

Water quality monitoring: nutrients, sediment

Communicating Results

Compilation of historical database of land use and water quality related information; database of existing and new land use, water quality, soil quality, and conservation programs; assessment of conservation practice effectiveness; and scientific papers, national and international conference presentations.

Collaborators

- USDA, Natural Resources Conservation Service
- USDA, Agricultural Research Service, Environmental Quality Laboratory
- University of Maryland Center for Environmental Science, Horn Point Laboratory
- Smithsonian Environmental Research Center
- National Oceanic and Atmospheric Administration
- Chesapeake Research Consortium, Inc.
- US Environmental Protection Agency
- USDA, Office of Risk and Cost Benefit Analysis
- Maryland Department of Natural Resources
- Maryland Department of Agriculture
- Wye Research and Education Center

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CEAP Assessment

Detect differences in nutrient concentrations in basins with similar amounts of agriculture but varying amounts of acres in Conservation Reserve Enhancement Program (CREP), cover crops, and Concentrated Animal Feeding Operations sites. Model nutrient transport from agricultural areas in the Choptank River watershed. Determine the effect of land application of poultry litter on stream water quality.

Watershed Description

Located on the Delmarva Peninsula of the Chesapeake Bay.

- The poultry industry dominates this Maryland agricultural area.
- 580,000 acres
- 59% crop land and 33% forest land
- Choptank River is on the impaired water body list under the Clean Water Act for nutrients, Biological Oxygen Demand (BOD), and fecal coliform (proposed).

Issues: Accelerated eutrophication due to nutrients, seasonal hypoxia, soil management and carbon sequestration, air quality, and disappearance of submerged aquatic vegetation.

*Natural Resources Conservation Service



Corn field equipped with tile drain located adjacent to a forested riparian system.



Professor Tom Fisher of University of Maryland, Horn Point Laboratory, conducts at test of the Acoustic Doppler Current Profiler system to be used measuring stream flow in several areas of the Choptank River watershed.



Research Associate, Dean Hively, USDA-ARS, Environmental Quality Laboratory, collects surface water samples from the Choptank River for metals analysis.

Timeline

2003 Initial funding	2004 August CEAP bibliographies	2005 May Wetlands peer review	July Wildlife literature review (program-based)	October Cropland literature reviews Wildlife literature review (practice-based) Wildlife Work Plan	November Wetlands Work Plan	December Draft findings—Prairie Pothole region
2006 February Preliminary habitat quality models— Prairie Potholes wetland region	March Preliminary National Assessment Report	2007 Fall National Assessment Final Report Special Emphasis Watershed reports				